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 Art Unit: 1623 Phone Number 305-9043 Serial Number: 09/726,244
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Title of Invention: 1,3-Oxathiolane nucleoside compounds and compositions

Inventors (please provide full names): Cervais Dianne, Nghe Nguyen-Rati, Boulos Zacharie,
Bernard Belneau, Pierrette Belneau

Earliest Priority Filing Date: 7-24-1992

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

09/726,244 is a re-issue application of 08/190,205
which issued as US Patent 5,538,975. A litigation
search is needed for this application. Please let me
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08190203 (08) 5538975 July 23, 1996

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5538975

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July 23, 1996

1,3-oxathiolane nucleoside compounds and compositions

REISSUE: November 29, 2000 - Reissue Application filed Nov. 29, 2000 (O.G. Feb. 13, 2001)
Ex. Gp.: 1623; Re. S.N. 09/726,244 February 13, 2001

APPL-NO: 08190203 (08)

FILED-DATE: February 1, 1994

GRANTED-DATE: July 23, 1996

CORE TERMS: sub, compound, pharmaceutically, mmol, mixture, derivative, ingredient, ester, conveniently, cell ...

ENGLISH-ABST:

The invention relates to 1,3-oxathiolane nucleoside analogues and their use in the treatment of viral infections. More specifically, this invention relates to

(-)-4-amino-5-fluoro-1-(2-hydroxymethyl-1,3-oxathiolan-5-yl)-(1H)-pyrimidin-2-one and pharmaceutically acceptable derivatives and pharmaceutical formulations thereof.

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08190203 (08) 5538975 July 23, 1996

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2001 Pat. App. LEXIS 11, *

GERVAIS DIONNE, Junior Party, (Patent **5,538,975**), v. LIOTTA, Senior Party (Application []).

Patent Interference No. 104,333

Board of Patent Appeals and Interferences

2001 Pat. App. LEXIS 11

October 31, 2001, Filed

CORE TERMS: skill, laboratory, enantiomer, chemical, compound, mixture, chemistry, racemic, examiner, chromatography...

OPINION:

The opinion in support of the decision being entered today is not binding precedent of the Board.

Per curiam.

MEMORANDUM OPINION and ORDER

(Decision on Preliminary Motions)

* * * *

III. Opinion

A. Construction of the Count

* * * *

In interpreting the claims involved in the interference, we apply the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise may be afforded by written description contained in applicant's specification. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997). Giving the claims recited in the count the broadest reasonable meaning, we conclude that one of ordinary skill in the art would interpret the claims to encompass the (-) FTC enantiomer as well as substantially pure (-) FTC and their pharmaceutically acceptable salts thereof and pharmaceutical compounds comprising the (-) FTC enantiomer.

Additionally, we [***2**] note that Liotta has directed our attention to a Final Decision issued in Interference 104,201, which is said to hold that a claim directed to the (-) enantiomer of a compound, without specifying a level of purity covers all mixtures that contain that compound including a racemic mixture of the (+) and (-) enantiomers. (Liotta Revised Preliminary Motion 1, Paper No. 52, p. 19). The fact that another motions panel in another interference faced with a different evidentiary record may have reached a different claim construction comes as no surprise and in any event is entitled to no precedential value. Construction of the meaning of words in a patent claim is an issue of law to be resolved based on the facts of each case.

Markman v. Westview Instruments, Inc., 52 F.3d 967, 979, 34 USPQ2d 1321, 1329-30 (Fed. Cir. 1995) (in banc), aff'd 517 U.S. 370, 391, 116 S.Ct. 1384, 1396 (1996) (interpretation of the word "inventory" [in a patent claim] in this case is an issue for the judge, not the jury * *

*."); *Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.*, 93 F.3d 1572, 1577, 40 USPQ2d 1019, 1022 (Fed. Cir. 1996) [*3] (significance to be given a limitation in a patent claim is a question of law which is resolved based on particular facts).

Liotta also directs our attention to *In re Williams*, 171 F.2d 319, 80 USPQ 150 (CCPA 1948) which is said to hold "that a claim to a laevo optical isomer without mention of a purity state read on a racemic mixture." (Liotta Reply 1, Paper No. 101, p. 1). *Williams*, however, involved a disputed claim directed to a laevo rotary form of a compound that was "substantially free from the dextro rotary form." *Williams* does not **require** a claim construction that a claim to a laevo optical isomer without mention of a purity state read on a racemic mixture. Moreover, the U.S. Court of Customs and Patent Appeals ("CCPA") issued words of caution in applying the *Williams* holding. Specifically, in the subsequent decision in *In re Adamson*, 47 CCPA 839, 275 F.2d 952, 125 USPQ 233 (1960), the CCPA indicated that the *Williams* decision resulted from the absence of relevant available evidence. In contrast to *Williams*, the evidence presented in this interference [*4] amply supports our claim construction.

B. Overview of Preliminary and Miscellaneous Motions

* * * *

1. Dionne Preliminary Motion 3

* * * *

a. The Person of Ordinary Skill in the Art

There exists a dispute as to knowledge and experience attributed to the "person of ordinary skill in the art." In particular, Dionne argues for a higher level of skill than that sought by Liotta. For example, Dionne's experts allege that:

The subject matter of the '160 Application relates, inter alia, to the ***synthesis and resolution of FTC***. In my opinion, the person of ordinary skill in the art of the synthesis and resolution of organic compounds, such as FTC, at all times relevant to my analyses in this case would be someone with a ***Ph.D. in organic chemistry*** and a ***minimum of two years further experience in the synthesis and resolution of organic, medicinal compounds***. This person would be experienced in the use of various resolution techniques, including chromatography (including high performance liquid chromatography or "HPLC") and/or enzymatic resolution techniques . . .

(Declaration of Dr. Barry Trost, P12, DX 2048; see also, Declaration of Dr. Irving W. Wainer, P4, DX [*5] 2155; Second Declaration of Dr. J. Bryan Jones, DX 2144, P5). In contrast, Liotta experts argue:

The art to which the '160 application relates is chemistry and, more particularly, ***organic chemistry***. Based upon my years of experience and knowledge, I believe that one of ordinary skill in the art would have a ***B.S. in chemistry*** (or a related science) and ***four or five years of chemical laboratory experience***. I do not believe, as Dionne's declarants suggest, that ordinary skill in the art would necessarily have been experienced in chiral HPLC and/or enzymes and would certainly not have been experienced in all resolution techniques.

(LAX 1004, Klibanov Opposition Decl., P10, emphasis added; see also, Pirkle Opposition Decl. LAX 1005, P10).

It is recognized that the person of ordinary skill in the art is a hypothetical person who is presumed to know the relevant prior art. *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962, 1 USPQ2d 1196, 1201 (Fed. Cir. 1986). In determining this skill level, the Board may consider various factors including "type of problems encountered in the art; prior [*6] art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field." *Id.* In a given case, every factor may not be present, and one or more factors may predominate. *Id.* at 962-63, 1 USPQ2d at 1201.

In support of their allegations, Liotta's experts note that in BioChem Pharma, the real party in interest in Dionne '975, hired a Ms. Marika DiMarco in 1988 to start up and run the company's chromatography lab. At that time, Ms. DiMarco had a B.S. in biology and seven years of industrial experience in chromatography. During the years of 1988 to 1990, Ms. DiMarco was asked by BioChem Pharma to do research on the resolution of a nucleoside that was related to FTC. (LAX 1004, P10; LAX 1005, P10). Additionally, Dr. Klibanov states that none of the inventors named in Dionne's or Liotta's applications had the qualifications espoused by Dionne. (LAX 1004, P11).

Beyond the conclusory statements of its experts, Dionne has failed to identify sufficient evidence in support of its alleged skill level. Indeed, Dionne's expert, Dr. Jones has indicated that techniques [*7] for separating the enantiomers in a racemic mixture like FTC have been taught in *undergraduate* as well as graduate level organic chemistry courses. (DX 2009, P16, 19 and 25). Similarly, Dionne's expert, Dr. Wainer has stated that, while working with the FDA (pre-1990), his goal was to develop a chemical assay for separating the component enantiomers of racemic mixtures that could be used by an "average chemist" without any type of advanced training. (DX 2040, P17). Moreover, Dionne's expert, Dr. Trost states that his lab had obtained separations of various racemates using chiral HPLC columns with the work being "carried out on a routine basis by students with Bachelor's degrees in chemistry." (DX 2048, P21). Thus, while Liotta's supporting evidence on this issue is meager, Liotta's evidence combined with the aforementioned statements of Dionne's experts is arguable sufficient to support a finding that:

One of ordinary skill in the art would have a B.S. in chemistry (or a related science) and have four or five years of chemical laboratory experience. The person of ordinary skill in the art would not necessarily have been experienced in resolution techniques.

(LAX 1004, [*8] P10; LAX 1005, P10).

While the foregoing finding may resolve a factual dispute among the parties, its overall relevance is not apparent. We have noted a tendency for parties involved in interferences to "define" the level of skill by reference to an academic degree (e.g., a B.S., and M.S. or a Ph.D.) and/or by reference to a person having a certain number of years of particularized experience (e.g., in a chemical laboratory). As we have noted on other another occasion, n1 the parties references to degrees and experience are not of much assistance to us as fact-finders. None of the members of this motions panel has a B.S. degree in chemistry. Even if one of us had such a degree, we would know only what we think a person with a B.S. in chemistry awarded in the year we graduated from our particular college might have known.

n1 *Argyropoulos v. Swarup*, 56 USPQ2d 1795, 1807 (Bd. Pat. App. & Int. 2000) (non-precedential).

Likewise, we have no idea what an individual may have learned through four or five years of chemical laboratory experience. Abstract references to a period of experience are essentially meaningless. We suppose the precise knowledge acquired [*9] as a result of experience

might well be a function of the type of laboratory and the type of work actually done in that laboratory. To the extent that any member of this panel may have chemical laboratory experience beyond college, none of it occurred at any time relevant to the issues in this interference.

More to the point is the proposition that our personal understanding of the knowledge of individuals with a B.S. in chemistry and any number of years of laboratory experience is essentially irrelevant. Cf. *Fromson v. Antiec Printing Plates, Inc.*, 132 F.3d 1437, 1448, 45 USPQ2d 1269, 1277 (Fed. Cir. 1997) (Mayer, C.J., concurring) (I "know" what anodization means from my own undergraduate studies and experiments; the concept is not difficult and I need no further education to grasp it. I happen to have a dictionary in my chambers from the era pertinent here, which would confirm my "knowledge" about anodization. ***. But, I am neither an expert in the field nor one of ordinary skill in the art despite how much I think I "know" about a process I once studied. Nor do my colleagues on this court or on the district court possess such expertise, [*10] and even if they did, they would have to defer to the record made in the case.).

As Chief Judge Mayer notes, what counts is what is shown in a record. With respect to the skill of an ordinary artisan, we believe a party should be able to refer to standard texts and other publicly available documents to support what a hypothetical person of ordinary skill is presumed to know. Alternatively, it might be appropriate for a person with knowledge in a particular field to give testimony with respect to particular facts and techniques known by the average person working in that field, preferably citing documents in support thereof. Significantly, the testimony (but not our personal knowledge) may be cross-examined. A party in an interference cannot be expected to cogently brief an issue and argue its case if it also has to figure out what our personal knowledge might be.

In evaluating the enablement issues raised in this interference, we have given minimal, if any, weight to degrees and abstract descriptions of the length of service in chemical laboratories. Rather, consistent with our requirement that an expert witness state the underlying basis for opinion, n2 we have considered the testimony [*11] of the experts on the issue of ordinary skill in the art in light of the technical documents and concrete experience to which those experts have made reference.

b. The '160 Application Lacks Enablement for the Resolution of FTC Enantiomers

n2 Notice Declaring Interference, P46.

* * * *

ii. Prior Art Fails to Enable Chiral HPLC Resolution of FTC

* * * *

We note that Biochem Pharma, Inc., the real party in interest in Dionne '975, is also involved in Interference No. 104,369 ("369"). Specifically, the '369 interference involves Belleau (real party in interest, Biochem Pharma, Inc.) versus []. The panel that decided the preliminary motions in '369 interference is the same as in the present interference.

During the '369 interference, Belleau (Biochem Pharma) argued that as of January 3, 1991, one skilled in the art would have been able to obtain the (-)-enantiomer of [] in practically pure form without undue experimentation. In the '369 interference, this panel concluded that:

Based on the evidence that has been presented to us, we are not convinced that the amount of experimentation required to obtain (-)-enantiomer, according to either of the above two [claim] **[*12]** interpretations, would have been undue at the time the '039 application was filed.

(Interference 104,369, Paper No. 189, Decision on Preliminary Motions, pages 27-28, emphasis added).

The present interference involves at least one party that was not involved or otherwise related to the parties involved in the '369 interference. Furthermore, the findings and conclusions of the '369 decision were based upon a different evidentiary record.

To the extent the findings and conclusions of the '369 decision differ from those made in the present interference, we remind the parties that each interference is decided based on the specific facts and subject matter in dispute as well as the evidence that is presented during the interference. Moreover, as a matter of due process, each new party in an interference is entitled to make its own case. Cf., *Blonder-Tongue Laboratories, Inc. v. University of Ill. Foundation*, 402 U.S. 313, 169 USPQ 513 (1971).

* * * *

12. Liotta "Preliminary" Motion 3

Liotta's "Preliminary" Motion 3, in actuality a miscellaneous motion, requests entry of an order pursuant to 37 CFR § 1.614(c) instructing the examiner of **[*13]** Liotta's '730 application to enter the Supplemental Amendment and Information Disclosure Statement ("IDS") filed by Liotta November 17, 1999. Moreover, Liotta requests that the examiner return a signed Form PTO 1449 to Liotta indicating that the references cited in the IDS were considered. (Liotta Preliminary Motion 3, Paper No. 118, p. 1). This motion is unopposed.

The consideration of an IDS by an examiner and its subsequent entry into Liotta's '730 application file is an *ex parte* matter. We see no compelling reason for this *inter parte* proceeding to be suspended or delayed while the examiner considers the IDS of November 17, 1999. n3 After the termination of this interference, the application will be returned to the examiner for action not inconsistent with action taken by this Board. It is during this *ex parte* proceeding that Liotta's IDS should be reviewed and considered.

n3 Dionne has not filed, nor requested to file, a motion seeking the unpatentability of Liotta's claims under 37 CFR 1.633(a) based upon the art cited in the IDS.

Additionally, we note that Liotta's Supplemental Amendment requests that the specification be amended to reflect claims to certain **[*14]** earlier filed applications. As with the IDS, the entry of this amendment to the specification is best left for *ex parte* consideration after the termination of this interference.

For the reasons provided above, Liotta's "Preliminary" Motion 3 is **dismissed without prejudice** to the IDS and amendment being considered when *ex parte* proceedings resume.

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2001 Pat. App. LEXIS 11, *

GERVAIS DIONNE, Junior Party, (Patent **5,538,975**), v. LIOTTA, Senior Party (Application []).

Patent Interference No. 104,333

Board of Patent Appeals and Interferences

2001 Pat. App. LEXIS 11

October 31, 2001, Filed

CORE TERMS: skill, laboratory, enantiomer, chemical, compound, mixture, chemistry, racemic, examiner, chromatography...

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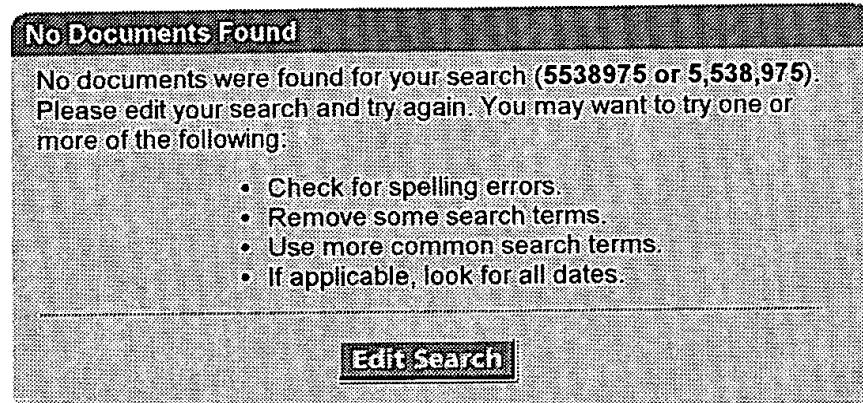
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13855297

Basic Patent (No,Kind,Date): GB 9116601 A0 19910918 <No.
of Patents: 047>

Patent Family:

Patent No	Kind	Date	Applic No	Kind	Date
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19920731					
AP 9200414	A0	19920731	AP 92414		A
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IL 102616	A1	19961031	IL 102616	A
19920723				
JP 2960778	B2	19991012	JP 92503131	A
19920724				
JP 7500317	T2	19950112	JP 92503131	A
19920724				
KR 242454	B1	20000302	KR 9470260	A
19940127				
MX 9204474	A1	19931201	MX 9204474	A
19920731				
NO 9400322	A	19940321	NO 94322	A
19940131				
NO 9400322	A0	19940131	NO 94322	A
19940131				
NO 300842	B1	19970804	NO 94322	A
19940131				
NZ 243637	A	19950328	NZ 243637	A
19920720				
SG 6800541	A1	19991116	SG 9601043	A
19920803				
US 5538975	A	19960723	US 190203	A
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US 5618820	A	19970408	US 487452	A
19950607				
WO 9303027	A1	19930218	WO 92CA321	A
19920724				
ZA 9205668	A	19930428	ZA 925668	A
19920728				
CZ 9400203	A3	19940713	CZ 9220394	A
19920724				
CZ 283765	B6	19980617	CZ 94203	A
19920724				
RU 2126405	C1	19990220	RU 9413464	A
19920724				
SK 9400104	A3	19941207	SK 94104	A
19920724				

SK 280131	B6	19990806	SK 94104	A
19920724				
OA 9883	A	19940915	OA 60465	A
19940201				
MD 9500114	A	19960628	MD 95114	A
19920724				
MD 1434	B2	20000331	MD 95114	A
19920724				
EE 3002	B1	19970616	EE 9400261	A
19941020				
TJ 244	A3	19991124	TJ 94000128	A
19941215				

Priority Data (No,Kind,Date):

GB 9116601 A 19910801
 WO 92CA321 A 19920724
 WO 92CA321 W 19920724
 EP 92307051 A3 19920803
 US 487452 A 19950607
 US 190203 A1 19940201
 TJ 94000128 A 19941215

PATENT FAMILY:

AFRICAN REG. IND. PROP. ORG. (AP)

Patent (No,Kind,Date): AP 321 A 19940228
 1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
 Patent Assignee: IAF BIOCHEM INT (CA)
 Author (Inventor): DIONNE GERVAIS (CA)
 Priority (No,Kind,Date): GB 9116601 A 19910801
 Applic (No,Kind,Date): AP 92414 A 19920731
 Designated States: (National) BW; GM; GH; KE; LS; MW;
 SD; SZ; UG; ZM;
 ZW
 IPC: * C07D-411/04; C12P-041/00; A61K-031/505
 CA Abstract No: * 119(21)226345D
 Derwent WPI Acc No: * C 93-038535
 Language of Document: English
 Patent (No,Kind,Date): AP 9200414 A0 19920731
 1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
 Patent Assignee: BIOCHEM PHARMA INC
 Priority (No,Kind,Date): GB 9116601 A 19910801
 Applic (No,Kind,Date): AP 92414 A 19920731
 Designated States: (National) BW; GH; GM; KE; LS; MW;
 SD; SZ; UG; ZM;
 ZW
 Language of Document: English

AUSTRALIA (AU)

Patent (No,Kind,Date): AU 9223408 A1 19930302
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
Patent Assignee: BIOCHEM PHARMA INC
Author (Inventor): DIONNE GERVAIS
Priority (No,Kind,Date): WO 92CA321 A 19920724;

GB 9116601 A
19910801
Applic (No,Kind,Date): AU 9223408 A 19920724
IPC: * C07D-411/04; C12P-041/00; A61K-031/505
Derwent WPI Acc No: * C 93-038535
Language of Document: English
Patent (No,Kind,Date): AU 659668 B2 19950525
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
Patent Assignee: BIOCHEM PHARMA INC
Author (Inventor): DIONNE GERVAIS
Priority (No,Kind,Date): WO 92CA321 W 19920724;
GB 9116601 A
19910801
Applic (No,Kind,Date): AU 9223408 A 19920724
IPC: * C07D-411/04; C12P-041/00; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: English

BULGARIA (BG)
Patent (No,Kind,Date): BG 98616 A 19950331
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
Patent Assignee: BIOCHEM PHARMA INC (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): WO 92CA321 W 19920724;
GB 9116601 A
19910801
Applic (No,Kind,Date): BG 98616 A 19940228
IPC: * C07D-411/04; C12P-041/00; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Bulgarian
Patent (No,Kind,Date): BG 61693 B1 19980331
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): WO 92CA321 W 19920724;
GB 9116601 A
19910801
Applic (No,Kind,Date): BG 98616 A 19940228
Filing Details: (Date of Previous Publication)
19980630

IPC: * C07D-411/04; C12P-041/00; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Bulgarian

CANADA (CA)

Patent (No,Kind,Date): CA 2114221 AA 19930218
1, 3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English; French)
Patent Assignee: BIOCHEM PHARMA INC (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801
Applic (No,Kind,Date): CA 2114221 A 19920724
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: English

CANADA (CA)

Legal Status (No,Type,Date,Code,Text):
CA 2114221 P 19940125 CA REFW
CORRESPONDS TO PCT APPLICATION (ENTSPRICHT PCT
ANMELDUNG)
WO 9303027 P

ESTONIA (EE)

Patent (No,Kind,Date): EE 3002 B1 19970616
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): GERVAIS DIONNE (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801
Applic (No,Kind,Date): EE 9400261 A 19941020
IPC: * A61K-031/505; C07D-411/04; C12P-041/00
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535

TAJIKISTAN (TJ)

Patent (No,Kind,Date): TJ 244 A3 19991124
(-)-4-AMINO-5-FLUORO-1-(2-HYDROXYMETHYL-1,3-OXATHIOLAN-5-YL)-(111)-PYR
IMIDIN-2-ONE MIXTURE OF ITS ENANTIOMERS METHOD OF
ITS PREPARATION
METHOD OF TREATMENT
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): TJ 94000128 A 19941215;
WO 92CA321 W

19920724; GB 9116601 A 19910801
Applc (No,Kind,Date): TJ 94000128 A 19941215
IPC: * C07D-411/04; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535; C 02-141512

CHINA (CN)

Patent (No,Kind,Date): CN 1070191 A 19930324
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
Patent Assignee: BIOCHEM PHARMA INC (CA)
Author (Inventor): DIENNE GERVAIS (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801
Applc (No,Kind,Date): CN 92108995 A 19920801
IPC: * C07D-417/04; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Chinese
Patent (No,Kind,Date): CN 1132073 A 19961002
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801
Applc (No,Kind,Date): CN 95118741 A 19951103
IPC: * A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Chinese

Patent (No,Kind,Date): CN 1034810 B 19970507
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): DIENNE G (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801
Applc (No,Kind,Date): CN 92108995 A 19920801
IPC: * C07D-417/04; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Chinese
Patent (No,Kind,Date): CN 1074924 B 20011121
PREPARING METHOD FOR MEDICAL COMPOSITION CONTAINING
1,3-OXATHIOLANE
NUCLEOSIDE ANALOGUES (English)
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): DIONNE G (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801

Applic (No,Kind,Date): CN 95118741 A 19951103
IPC: * A61K-031/505; A61P-031/12
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Chinese

CZECH REPUBLIC (CZ)

Patent (No,Kind,Date): CZ 9400203 A3 19940713
1,3-OXATHIOLATE NUCLEOSIDE ANALOGS (Czech; English)
Patent Assignee: BIOCHEM PHARMA INC (CA)
Author (Inventor): GERVAIS DIONNE (CA)
Priority (No,Kind,Date): WO 92CA321 W 19920724; GB
9116601 A
19910801
Applic (No,Kind,Date): CZ 9220394 A 19920724
IPC: * C07D-411/04; C12P-041/00; A61K-031/505; C07D-
239-47;
C07D-327-04
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Czech; Slovak
Patent (No,Kind,Date): CZ 283765 B6 19980617
(-)-CIS-4-AMINO-5-FLUORO-1-(2-HYDROXYMETHYL-1,3-
OXATHIOLAN-5-YL)-(1H)
-PYRIMIDIN-2-ONE A MIXTURE CONTAINING SUCH COMPOUND,
PHARMACEUTICAL
COMPOSITION IN WHICH THE COMPOUND IS COMPRISED, THE
COMPOUND PER SE
OR THE MIXTURE THEREOF FOR USE IN THERAPY AND THE USE
OF THE COMPOUND
WHEN PREPARING MEDICAMENTS (Czech; English)
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): GERVAIS DIONNE (CA)
Priority (No,Kind,Date): WO 92CA321 W 19920724; GB
9116601 A
19910801
Applic (No,Kind,Date): CZ 94203 A 19920724
IPC: * C07D-411/04; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Czech; Slovak

EGYPT (EG)

Patent (No,Kind,Date): EG 20193 A 19971030
PROCESS FOR PREPARING OF 1,3- OXATHIOLANE
NUCLEOSIDE ANALOGUES

(English)

Patent Assignee: IAF BIOCHEM INT
Author (Inventor): DIONNE GERVAISE
Priority (No,Kind,Date): GB 9116601 A 19910801
Applic (No,Kind,Date): EG 92429 A 19920730
IPC: * C07D-411/04; C12P-041/00; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Arabic

EUROPEAN PATENT OFFICE (EP)

Patent (No,Kind,Date): EP 526253 A1 19930203
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English; French;
German)

Patent Assignee: BIOCHEM PHARMA INC (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801
Applic (No,Kind,Date): EP 92307051 A 19920803
Designated States: (National) AT; BE; CH; DE; DK; ES;

FR; GB; GR; IE;
IT; LI; LU; MC; NL; PT; SE
IPC: * C07D-411/04; C12P-041/00; A61K-031/505
CA Abstract No: ; 119(21)226345D
Derwent WPI Acc No: ; C 93-038535
Language of Document: English

Patent (No,Kind,Date): EP 1155695 A1 20011121
1,3 OXATHIOLANE NUCLEOSIDE ANALOGUES (English; French;
German)

Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): EP 92307051 A3 19920803;
GB 9116601 A
19910801

Applic (No,Kind,Date): EP 2001119636 A 19920803
Designated States: (National) AT; BE; CH; DE; DK; ES;
FR; GB; GR; IE;
IT; LI; LU; MC; NL; PT; SE
IPC: * A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535; C 02-141512; C

02-141512
Language of Document: English

EUROPEAN PATENT OFFICE (EP)

Legal Status (No,Type,Date,Code,Text):
EP 526253 P 19910801 EP AA PRIORITY
(PATENT

APPLICATION) (PRIORITY
(PATENTANMELDUNG))

EP 526253 P 19920803 GB 9116601 A 19910801
APPLICATION EP AE EP-
(EUROPAEISCHE ANMELDUNG)
EP 92307051 A 19920803
EP 526253 P 19930203 EP AK DESIGNATED
CONTRACTING STATES IN AN APPLICATION WITH
SEARCH REPORT (IN EINER ANMELDUNG BENANNTEN
VERTRAGSSTAATEN)
IT LI LU MC NL AT BE CH DE DK ES FR GB GR IE
EP 526253 P 19930203 PT SE PUBLICATION
OF APPLICATION WITH SEARCH REPORT
(VEROEFFENTLICHUNG DER ANMELDUNG MIT
RECHERCHENBERICHT)
EP 526253 P 19930908 EP 17P REQUEST FOR
EXAMINATION FILED (PRUEFUNGSANTRAG
GESTELLT)
EP 526253 P 19960522 EP 17Q FIRST
EXAMINATION REPORT (ERSTER PRUEFUNGSBESCHEID)
EP 526253 P 20020502 EP RAP1 APPLICANT
REASSIGNMENT (CORRECTION) (ANMELDER
UEBERTRAGUNG (KORR.))
EP 1155695 P 19910801 SHIRE BIOCHEM INC.
(PATENT EP AA PRIORITY
(PATENTANMELDUNG))
EP 1155695 P 19920803 GB 9116601 A 19910801
OF EP AA DIVIDED OUT

(AUSSCHEIDUNG AUS)
EP 92307051 A3 19920803
EP 1155695 P 19920803 EP AE EP-

APPLICATION (ART.
EP 1155695 P 20011121 EP AC DIVISIONAL
76) OF: (TEILANMELDUNG (ART.
76) AUS:)
EP 1155695 P 20011121 EP AK DESIGNATED
CONTRACTING STATES IN AN APPLICATION WITH
SEARCH REPORT: (IN EINER ANMELDUNG BENANNT
VERTRAGSSTAATEN)
IT LI LU MC NL AT BE CH DE DK ES FR GB GR IE
EP 1155695 P 20011121 EP A1 PUBLICATION
OF APPLICATION WITH SEARCH REPORT
(VEROEFFENTLICHUNG DER ANMELDUNG MIT
RECHERCHENBERICHT)
EP 1155695 P 20020724 EP 17P REQUEST FOR
EXAMINATION FILED (PRUEFUNGSANTRAG
GESTELLT)
20020521
EP 1155695 P 20020807 EP AKX PAYMENT OF
DESIGNATION FEES (ZAHLUNG VON
BENENNUNGSGEBUEHREN)
IT LI LU MC NL AT BE CH DE DK ES FR GB GR IE
PT SE

FINLAND (FI)
Patent (No,Kind,Date): FI 9400435 A 19940128
1,3-OXATIOLANNUKLEOSIDANALOGER (Swedish)
Patent Assignee: BIOCHEM PHARMA INC (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801; WO
92CA321 A

19920724

Applic (No,Kind,Date): FI 94435 A 19940128
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Finnish; Swedish
Patent (No,Kind,Date): FI 9400435 A0 19940128
1,3-OXATIOLANNUKLEOSIDANALOGER (Swedish)
Patent Assignee: BIOCHEM PHARMA INC (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801; WO
92CA321 A

19920724

Applic (No,Kind,Date): FI 94435 A 19940128
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Finnish; Swedish

FINLAND (FI)

Legal Status (No,Type,Date,Code,Text):
FI 940435 A 19970616 FI FD Application
shelved (J tetty sillens 4 kk)

GREAT BRITAIN (GB)

Patent (No,Kind,Date): GB 9116601 A0 19910918
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
Patent Assignee: IAF BIOCHEM INT
Priority (No,Kind,Date): GB 9116601 A 19910801
Applic (No,Kind,Date): GB 9116601 A 19910801
Language of Document: English

HUNGARY (HU)

Patent (No,Kind,Date): HU 9400285 A0 19940530
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES AND
PHARMACEUTICAL COMPOSITIONS
CONTAINING THEM (English)
Patent Assignee: BIOCHEM PHARMA INC (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801
Applic (No,Kind,Date): HU 949400285 A 19920724
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Hungarian
Patent (No,Kind,Date): HU T70030 A2 19950928
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES AND
PHARMACEUTICAL COMPOSITIONS CONTAINING THEM, AND PROCESS
FOR THEIR PREPARATION (English)

Patent Assignee: BIOCHEM PHARMA INC (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801
Applic (No,Kind,Date): HU 949400285 A 19920724
IPC: * C07D-411/04; C12P-041/00; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Hungarian
Patent (No,Kind,Date): HU 9500707 A3 19951128
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): DIONNE (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801
Applic (No,Kind,Date): HU 959500707 P 19950630
Filing Details: (Date of Coming into Force) 19920724
Addnl Info: 659.668 AU
IPC: * C07D-411/04; C12P-041/00; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Hungarian
Patent (No,Kind,Date): HU 211333 B3 19951128
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): DIONNE (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801
Applic (No,Kind,Date): HU 959500707 P 19950630
Filing Details: (Date of Coming into Force) 19920724
Addnl Info: 659.668 AU
IPC: * C07D-411/04; C12P-041/00; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Hungarian

HUNGARY (HU)
Legal Status (No,Type,Date,Code,Text):
 HU 70030 D 19960628 HU DFD9 TEMPORARY
PROT. CANCELLED DUE TO NON-PAYMENT OF FEE

ISRAEL (IL)
Patent (No,Kind,Date): IL 102616 A0 19930114
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES, METHODS FOR
THE PREPARATION
THEREOF AND PHARMACEUTICAL COMPOSITIONS CONTAINING
THE SAME (English)
Patent Assignee: BIOCHEM PHARMA INC
Priority (No,Kind,Date): GB 9116601 A 19910801

Applic (No,Kind,Date): IL 102616 A 19920723
IPC: * C07H
Derwent WPI Acc No: * C 93-038535
Language of Document: English
Patent (No,Kind,Date): IL 102616 A1 19961031
(-)-CIS-4-AMINO-5-FLUORO-1-(2-HYDROXYMETHYL-1,3-
OXATHIOLAN-5-YL)-(1H)-P
YRIMIDIN-2-ONE ANALOGUES METHODS FOR THE
PREPARATION THEREOF AND
PHARMACEUTICAL COMPOSITIONS CONTAINING THEM (English)
Patent Assignee: IAF BIOCHEM INT (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801
Applic (No,Kind,Date): IL 102616 A 19920723
IPC: * C07D-411/04; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: English

ISRAEL (IL)

Legal Status (No,Type,Date,Code,Text):
IL 102616 P 19970318 IL FF PATENTS
GRANTED
IL 102616 P 19981227 IL KB PATENTS
RENEWED

JAPAN (JP)

Patent (No,Kind,Date): JP 2960778 B2 19991012
Patent Assignee: IAF BIOCHEM INT
Author (Inventor): DEIONNU JAABEIZU
Priority (No,Kind,Date): WO 92CA321 W 19920724;
GB 9116601 A
19910801
Applic (No,Kind,Date): JP 92503131 A 19920724
IPC: * C07D-411/04; A61K-031/00; A61K-
031/505; A61K-031/52;
A61K-031/70; C07D-405/04; C07H-019/06; C07H-019/16;
C12P-041/00
Language of Document: Japanese
Patent (No,Kind,Date): JP 7500317 T2 19950112
Priority (No,Kind,Date): WO 92CA321 W 19920724;
GB 9116601 A
19910801
Applic (No,Kind,Date): JP 92503131 A 19920724
IPC: * C07D-411/04; A61K-031/505; C12P-041/00
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Japanese

KOREA, REPUBLIC (KR)

Patent (No,Kind,Date): KR 242454 B1 20000302
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): GERVAIS DIONNE (CA)
Priority (No,Kind,Date): WO 92CA321 W 19920724;
GB 9116601 A
19910801
Applc (No,Kind,Date): KR 9470260 A 19940127
IPC: * C07D-411/04; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Korean

MEXICO (MX)

Patent (No,Kind,Date): MX 9204474 A1 19931201
ANALOGOS NUCLEOSIDOS 1,3-OXATIOLANO. (Spanish)
Patent Assignee: IAF BIOCHEM INT
Author (Inventor): DIONNE GERVAIS
Priority (No,Kind,Date): GB 9116601 A 19910801
Applc (No,Kind,Date): MX 9204474 A 19920731
IPC: * A61K-031/13
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Spanish

MOLDOVA (MD)

Patent (No,Kind,Date): MD 9500114 A 19960628
ANALOGI NUCLEOZIDICI AI 1,3-OXATIOLANEI, PROCEDEU DE
OBTINERE A
COMPOZITIEI FARMACEUTICE, PROCEDEU DE TRATARE A
INFECTIEI VIRALE A
NUCLEOSIDE ANALOGS OF 1,3-OXATIOLAN, METHOD OF ITS
PREPARATION,
PHARMACEUTICAL COMPOSITION, METHOD OF VIRUS INFECTION
TREATMENT

(Romanian; English)
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): GERVAIS DIONNE (CA)
Priority (No,Kind,Date): WO 92CA321 W 19920724; GB
9116601 A
19910801
Applc (No,Kind,Date): MD 95114 A 19920724
IPC: * C07D-411/04; C12P-041/00; A61K-003/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535

Language of Document: Romanian
Patent (No,Kind,Date): MD 1434 B2 20000331
ANALOGI NUCLEOZIDICI AI 1,3-OXATIOLANULUI, COMPOZITIE
FARMACEUTICA
CONTINAND ANALOGI NUCLEOZIDICI AI 1,3-OXATIOLANULUI
SI METODA DE
TRATAMENT AL INFECTIILOR VIRALE 1,3-OXATHIOLAN
NUCLEOSIDE ANALOGUES,
PHARMACEUTICAL COMPOSITION CONTAINING 1,3-OXATHIOLAN
NUCLEOSIDE
ANALOGUES AND METHOD OF TREATMENT OF THE VIRAL
INFECTIONS (Romanian;
English)
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): WO 92CA321 W 19920724; GB
9116601 A
19910801
Applic (No,Kind,Date): MD 95114 A 19920724
IPC: * C07D-411/04; C12P-041/00; A61K-003/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: Romanian

NORWAY (NO)
Patent (No,Kind,Date): NO 9400322 A 19940321
1,3-OKSATIOLAN-NUKLEOSIDANALOGER (Norwegian)
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): WO 92CA321 W 19920724;
GB 9116601 A
19910801
Applic (No,Kind,Date): NO 94322 A 19940131
IPC: * C07D-411/04; C12P-041/00; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535; C 02-141512
Language of Document: Norwegian
Patent (No,Kind,Date): NO 9400322 A0 19940131
1,3-OKSATIOLAN-NUKLEOSIDANALOGER (Norwegian)
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): WO 92CA321 W 19920724;
GB 9116601 A
19910801
Applic (No,Kind,Date): NO 94322 A 19940131
IPC: * C07D
CA Abstract No: * 119(21)226345D

Derwent WPI Acc No: * C 93-038535; C 02-141512
Language of Document: Norwegian
Patent (No,Kind,Date): NO 300842 B1 19970804
1, 3-OKSATIOLAN-NUKLEOSIDANALOGER (Norwegian)
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): WO 92CA321 W 19920724;
GB 9116601 A
19910801
Applic (No,Kind,Date): NO 94322 A 19940131
IPC: * C07D-411/04; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535; C 02-141512
Language of Document: Norwegian

NEW ZEALAND (NZ)
Patent (No,Kind,Date): NZ 243637 A 19950328
(-)-CIS-4-AMINO-5-FLUORO-1-(2-HYDROXYMETHYL-1,3-OXATHIOLAN-5-YL)-(1H)-PYRIMIDIN-2-ONE AND A PHARMACEUTICAL COMPOSITION THEREOF (English)
Patent Assignee: BIOCHEM PHARMA INC
Author (Inventor): DIONNE GERVAIS
Priority (No,Kind,Date): GB 9116601 A 19910801
Applic (No,Kind,Date): NZ 243637 A 19920720
IPC: * C07D-411/04; C07B-057/00; C12P-017/16; C12P-041/00;
A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: English

OAPI (OA)
Patent (No,Kind,Date): OA 9883 A 19940915
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801
Applic (No,Kind,Date): OA 60465 A 19940201
IPC: * C07D-411/04; C12P-041/00; A61K-031/505
Language of Document: English

SLOVAKIA (SK)
Patent (No,Kind,Date): SK 9400104 A3 19941207
1, 3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
Patent Assignee: BIOCHEM PHARMA INC (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): WO 92CA321 W 19920724;
GB 9116601 A

19910801

Applic (No,Kind,Date): SK 94104 A 19920724

IPC: * C07D-411/04; C12P-041/00; A61K-031/505

CA Abstract No: * 119(21)226345D

Derwent WPI Acc No: * C 93-038535

Language of Document: Slovak

Patent (No,Kind,Date): SK 280131 B6 19990806

(-) -CIS-4-AMINO-5-FLUORO-1-(2-HYDROXYMETHYL-1,3-OXATHIOLAN-5-YL)-(1H)

-PYRIMIDIN-2-ONE, A MIXTURE AND PHARMACEUTICAL COMPOSITION CONTAINING

THEREOF, A COMPOUND OR MIXTURE FOR USE IN THERAPY AND FOR THE

PREPARATION OF MATERIA MEDICA (English)

Author (Inventor): DIONNE GERVAIS (CA)

Priority (No,Kind,Date): WO 92CA321 W 19920724;

GB 9116601 A

19910801

Applic (No,Kind,Date): SK 94104 A 19920724

IPC: * C07D-411/04; A61K-031/505

CA Abstract No: * 119(21)226345D

Derwent WPI Acc No: * C 93-038535

Language of Document: Slovak

RUSSIA (RU)

Patent (No,Kind,Date): RU 2126405 C1 19990220

(-) -4-AMINO-5-FLUORO-1-(2-HYDROXYMETHYL-1,3-OXATHIOLANE-5-YL)- -(1H)-PY

RIMIDINE-2-ONE, A MIXTURE OF ITS ENANTIOMERS, METHODS OF THEIR

SYNTHESIS, A METHOD OF TREATMENT (English)

Patent Assignee: IAF BIOCHEM INT (CA)

Author (Inventor): DIONNE GERVAIS (CA)

Priority (No,Kind,Date): WO 92CA321 W 19920724;

GB 9116601 A

19910801

Applic (No,Kind,Date): RU 9413464 A 19920724

IPC: * C07D-411/04; A61K-031/505

CA Abstract No: * 119(21)226345D

Derwent WPI Acc No: * C 93-038535; C 02-141512

Language of Document: Russian

SINGAPORE (SG)

Patent (No,Kind,Date): SG 6800541 A1 19991116

1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)

Patent Assignee: IAF BIOCHEM INT

Author (Inventor): GERVAIS DIONNE

Priority (No,Kind,Date): GB 9116601 A 19910801
Applic (No,Kind,Date): SG 9601043 A 19920803
IPC: * C07D-411/00; C12P-041/00; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: English

UNITED STATES OF AMERICA (US)

Patent (No,Kind,Date): US 5538975 A 19960723
1,3-OXATHIOLANE NUCLEOSIDE COMPOUNDS AND COMPOSITIONS
(English)
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): WO 92CA321 W 19920724; GB
9116601 A
19910801
Applc (No,Kind,Date): US 190203 A 19940201
National Class: * 514256000; 514049000; 514050000;
514269000;
514274000; 536004100; 544242000
IPC: * C07D-411/04; A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: English
Patent (No,Kind,Date): US 5618820 A 19970408
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES AND METHODS FOR
USING SAME
(English)
Patent Assignee: IAF BIOCHEM INT (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): US 487452 A 19950607; WO
92CA321 W
19920724; GB 9116601 A 19910801; US 190203 A1
19940201
Applc (No,Kind,Date): US 487452 A 19950607
Addnl Info: 5538975 Patented
National Class: * 514274000; 514023000; 514024000;
514049000;
514085000; 514269000; 536004100; 544242000
IPC: * A61K-031/505
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535; C 02-141512
Language of Document: English

UNITED STATES OF AMERICA (US)

Legal Status (No,Type,Date,Code,Text):

US 94190203 A 19940201 US REFW CORRESPONDS
 TO PCT APPLICATION (ENTSPRICHT PCT
 ANMELDUNG)
 WO 9303027 P
 US 5538975 P 19910801 US AA PRIORITY
 (PATENT)
 GB 9116601 A 19910801
 US 5538975 P 19920724 US AA PCT-
 APPLICATION (PCT-APPL.)
 WO 92CA321 W 19920724
 US 5538975 P 19940201 US AE APPLICATION
 DATA (PATENT)
 (APPL. DATA (PATENT))
 US 190203 A 19940201
 US 5538975 P 19940801 US AS02 ASSIGNMENT
 OF ASSIGNOR'S
 INTEREST
 BIOCHEM PHARMA INC. 275
 ARMAND FRAPPIER BLVD.
 LAVAL, QUEBEC, CANADA H7V 4A7
 ; DIONNE,
 GERVAIS : 19920720
 US 5538975 P 19960723 US A PATENT
 US 5538975 P 19961203 US CC CERTIFICATE
 OF CORRECTION
 US 5538975 P 19990303 US AS02 ASSIGNMENT
 OF ASSIGNOR'S
 INTEREST
 BIOCHEM PHARMA, INC. 275
 ARMAND FRAPPIER
 BLVD. LAVAL, QUEBEC H7V 4A7,
 CANADA ;
 NGUYEN-BA, NGHE : 19990126;
 ZACHARIE, BOULOS
 : 19990126; BELLEAU, BERNARD
 (DECEASED, BY
 PIERRETTE BE : 19990127
 US 5538975 P 20010213 US RF REISSUE
 APPLICATION FILED
 (REISSUE APPL. FILED)
 20001129
 US 5618820 P 19910801 US AA PRIORITY
 (PATENT)
 GB 9116601 A 19910801

US 5618820 P 19920724 US AA PCT-
APPLICATION WO 92CA321 W 19920724
US 5618820 P 19940201 US AA PRIORITY
US 190203 A1 19940201
US 5618820 P 19950607 US AE APPLICATION
DATA (PATENT) (APPL. DATA (PATENT))
US 487452 A 19950607
US 5618820 P 19970408 US A PATENT
US 5618820 P 19970930 US CC CERTIFICATE
OF CORRECTION
US 5618820 P 19990303 US AS02 ASSIGNMENT
OF ASSIGNOR'S INTEREST
BIOCHEM PHARMA, INC. 275
ARMAND FRAPPIER BLVD. LAVAL, QUEBEC H7V 4A7,
CANADA : NGUYEN-BA, NGHE : 19990126;
ZACHARIE, BOULOS : 19990126; BELLEAU, BERNARD
(DECEASED, BY PIERRETTE BE : 19990127
WORLD INTELLECTUAL PROPERTY ORGANIZATION, PCT (WO)
Patent (No,Kind,Date): WO 9303027 A1 19930218
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
Patent Assignee: BIOCHEM PHARMA INC (CA)
Author (Inventor): DIONNE GERVAIS (CA)
Priority (No,Kind,Date): GB 9116601 A 19910801
Applic (No,Kind,Date): WO 92CA321 A 19920724
Designated States: (National) AT; AU; BB; BG; BR; CA;
CH; CS; DE; DK;
ES; FI; GB; HU; JP; KP; KR; LK; LU; MG; MN; MW; NL;
NO; PL; RO; RU;
SD; SE; US (Regional) AT; BE; CH; DE; DK; ES; FR;
GB; GR; IT; LU;
MC; NL; SE; BF; BJ; CF; CG; CI; CM; GA; GN; ML; MR;
SN; TD; TG
Filing Details: WO 100000 With international search
report
IPC: * C07D-411/04; C12P-041/00; A61K-031/505
Language of Document: English

WORLD INTELLECTUAL PROPERTY ORGANIZATION, PCT (WO)
Legal Status (No,Type,Date,Code,Text):

WO 9303027 P 19910801 WO AA PRIORITY
(PATENT)

WO 9303027 P 19920724 WO AE APPLICATION
DATA (APPL.)

WO 9303027 P 19930218 WO AK DESIGNATED
STATES CITED IN A
SEARCH REPORT
PUBLISHED APPL.

ES FI GB HU JP
RO RU SD SE US
WO 9303027 P 19930218 WO AL DESIGNATED
COUNTRIES FOR
PUBLISHED
REPORT (DESIGNATED
PATENTS CITED IN A
REPORT)
LU MC NL SE BF
TD TG
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OF THE
WITH THE
(PUB. OF THE
INTERNATIONAL
WO 9303027 P 19930429 WO DFPE DEMAND FOR
INTERNATIONAL
EXPIRATION OF 19TH
(DEMAND FOR

GB 9116601 A 19910801
DATA)
WO 92CA321 A 19920724
PUBLISHED APPLICATION WITH
(DESIGNATED STATES CITED IN A
WITH SEARCH REPORT)
AT AU BB BG BR CA CH CS DE DK
KP KR LK LU MG MN MW NL NO PL
REGIONAL PATENTS CITED IN A
APPLICATION WITH SEARCH
COUNTRIES FOR REGIONAL
PUBLISHED APPL. WITH SEARCH
AT BE CH DE DK ES FR GB GR IT
BJ CF CG CI CM GA GN ML MR SN
INTERNATIONAL APPLICATION
INTERNATIONAL SEARCH REPORT
INTERNATIONAL APPL. WITH THE
SEARCH REPORT)
APPLICATION FILED PRIOR TO
MONTH FROM PRIORITY DATE

INTERNATIONAL APPL. FILED

PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY
DATE)

WO 9303027 P 19940125 WO ENP ENTRY INTO
THE NATIONAL PHASE IN:
CA 2114221 AA

WO 9303027 P 19940201 WO ENP ENTRY INTO
THE NATIONAL PHASE IN:
US 190203 A 19940201

WO 9303027 P 19940519 DE 8642/REG WITHDRAWAL
(ZURUECKNAHME)

WO 9303027 P 19940609 WO EX32 EXTENSION
UNDER RULE 32 EFFECTED AFTER COMPLETION OF
TECHNICAL PREPARATION FOR INTERNATIONAL
PUBLICATION UZ;
WO 9303027 P 19940609 WO LE32 LATER
ELECTION FOR INTERNATIONAL APPLICATION
FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM
PRIORITY DATE OR ACCORDING TO RULE 32.2(B)
(LATER ELECTION FOR INTERNATIONAL APPL. FILED
PRIOR TO EXPIRATION OF 19TH MONTH FROM
PRIORITY DATE OR ACCORDING TO RULE 32.2(B))
UZ;
WO 9303027 P 19941123 WO 122 EP: PCT APP.
NOT ENT. EUROP. PHASE (EP: PCT ANM. NICHT IN
EUROP. PHASE EING.)

WO 9303027 P 19950420 WO EX32 EXTENSION
UNDER RULE 32 EFFECTED AFTER COMPLETION OF
TECHNICAL PREPARATION FOR INTERNATIONAL
PUBLICATION GE+

WO 9303027 P 19950504 WO LE32 LATER
ELECTION FOR INTERNATIONAL APPLICATION
FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM
PRIORITY DATE OR ACCORDING TO RULE 32.2(B)
(LATER ELECTION FOR INTERNATIONAL APPL. FILED
PRIOR TO EXPIRATION OF 19TH MONTH FROM
PRIORITY DATE OR ACCORDING TO RULE 32.2(B))
GE;
WO 9303027 P 19960328 WO EX32 EXTENSION
UNDER RULE 32 EFFECTED AFTER COMPLETION OF
TECHNICAL PREPARATION FOR INTERNATIONAL
PUBLICATION AM+, TJ+
WO 9303027 P 19960704 WO EX32 EXTENSION
UNDER RULE 32 EFFECTED AFTER COMPLETION OF
TECHNICAL PREPARATION FOR INTERNATIONAL
PUBLICATION KG+
SOUTH AFRICA (ZA)
Patent (No,Kind,Date): ZA 9205668 A 19930428
1,3-OXATHIOLANE NUCLEOSIDE ANALOGUES (English)
Patent Assignee: IAF BIOCHEM INT
Author (Inventor): DIONNE GERVAIS; GERVAIS DIONNE
Priority (No,Kind,Date): GB 9116601 A 19910801
Applic (No,Kind,Date): ZA 925668 A 19920728
IPC: * C07D; A61K
CA Abstract No: * 119(21)226345D
Derwent WPI Acc No: * C 93-038535
Language of Document: English

Lewis Pat. No. 5,538,975

: us5538975/pn;prt max;..st

* SS 1: Results 1

1 / 1 PLUSPAT - ©QUESTEL-ORBIT

PN

US5538975 A 19960723 [US5538975]

TI

(A) 1,3-oxathiolane nucleoside compounds and compositions

PA

(A) IAF BIOCHEM INT (CA)

IN

(A) DIONNE GERVAIS (CA)

AP

US19020394 19940201 [1994US-0190203]

PR

WOCA9200321 19920724 [1992WO-CA00321]

GB9116601 19910801 [1991GB-0016601]

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(A) A61K-031/505 C07D-411/04

EC

C07D-411/04 C07D-327:00 C07D-239:00B

A61K-031/505F15

C12P-017/16D

C12P-019/40

C12P-041/00A

PCL

ORIGINAL (O) : 514256000; CROSS-REFERENCE (X) : 514049000

514050000 514269000 514274000

536004100 544242000

DT

Corresponding document

CT

US4366381; US5047407; US5204466; US5210085; US5248776; US5270315;
US5276151; US5444063;
US5466806; EP0382526; WO9111186; WO9117159; WO9210496;
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.alpha.-L-(2R,5R)-1,3-Oxathiolane-Pyrimidine and -Purine Nucleosides as
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and Hepatitis B Virus", Antimicrob. Agents & Chemother., vol. 37(11), pp. 2285-
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1992.
STG

(A) United States patent
AB

PCT No. PCT/CA92/00321 Sec. 371 Date Feb. 1, 1994 Sec. 102(e) Date Feb. 1,
1994 PCT Filed Jul. 24, 1992
PCT Pub. No. WO93/03027 PCT Pub. Date Feb. 18, 1993The invention relates to
1,3-oxathiolane nucleoside
analogues and their use in the treatment of viral infections. More specifically, this
invention relates to

(-)-4-amino-5-fluoro-1-(2-hydroxymethyl-1,3-oxathiolan-5-yl)-(1H)-pyrimidin-2-one and pharmaceutically acceptable derivatives and pharmaceutical formulations thereof.